

DIVISION 2 EARTHWORK

SECTION 200 CLEARING AND GRUBBING

200-1 DESCRIPTION

Perform the work of clearing and grubbing in all wooded areas between the construction limits. Perform the work of clearing and grubbing in all non-wooded areas between the construction limits and the limits of the project right of way or in easements shown on the project plans where seeding and mulching, sprigging, sodding or other work as indicated.

“Clearing” is defined as the cutting, removal and satisfactory disposal of all wooded vegetation and debris.

“Grubbing” is defined as the complete removal and satisfactory disposal of all grassy vegetative matter, root mat, ball and root, topsoil material high in organic content and surface debris.

200-2 MATERIALS

Refer to Division 10.

200-3 CONSTRUCTION METHODS

Perform the following as part of the work of clearing and grubbing:

- (A) Remove and dispose of crops, weeds and other annual growth;
- (B) Remove and dispose of surface debris such as fences, steps, walls, chimneys, column footings, other footings, foundation slabs, basements, other foundation components, signs, junked vehicles and other rubble and debris;
- (C) Fill holes and depressions that exist or are created;
- (D) Cut off and plug at the right-of-way or construction limits any private water or sewer line intercepted during the construction of the project;
- (E) Cut off and remove from the right-of-way or construction area any septic tank or portion thereof encountered within the right-of-way or construction area during the construction of the project; and
- (F) Remove materials in wetland areas to a depth of one foot below existing ground to be measured in accordance with Section 225.

Perform clearing and grubbing operations sufficiently before grading operations to prevent any debris from interfering with the excavation or embankment operations.

In environmentally sensitive areas shown on the original plans or permit drawings, perform grubbing operations no more than 7 calendar days before beginning continuous grading operations.

Perform all work under this section to minimize soil erosion and in accordance with Article 107-12. Coordinate the work with other operations such that no more than 17 acres of exposed, erodible surface area will be accumulated at any one time by the clearing and grubbing operation until erosion control measures are provided. Install temporary or permanent erosion control measures as soon as clearing and grubbing or land disturbing activities begin. Perform such erosion control work, temporary or permanent, as needed to minimize erosion resulting from clearing and grubbing operations.

Section 200

The Contractor may request an increase in the accumulated acres exposed by clearing and grubbing. If approved, establish and maintain such erosion control measures as needed.

Failure on the part of the Contractor to perform the required erosion control measures will be just cause for the Engineer to direct the suspension of clearing and grubbing operations in accordance with Article 108-7. The suspension will be in effect until such time as the Contractor has satisfactorily performed the required erosion control work. If the Contractor fails to perform the directed work within a reasonable length of time, the Engineer may have the work performed in accordance with Article 105-16.

200-4 CLEARING

Perform clearing within the limits established by the clearing method required by the plans and as directed.

The Engineer will designate all areas of growth or individual trees that shall be preserved due to their desirability for landscape or erosion control purposes. When the trees to be preserved are located within the construction limits, they will be shown in the plans or designated by the Engineer.

Trim or cut branches of trees that overhang the roadbed, utility easements or obstruct sight distances and that are less than 16 ft above the elevation of the finished grade so as to not endanger the health of the tree.

In embankment areas where the depth of the embankment measured under the roadbed exceeds 6 ft in height, cut sound trees at a height of not more than 6" above natural ground. When trees are to be cut outside the construction limits and the Engineer has designated that the area is not to be grubbed, cut the trees reasonably close to the natural ground surface. Cut trees to approximately 6" above low water level in swamp areas.

At a bridge site, clear the entire width of the right of way beginning at a station 3 ft back of the beginning extremity of the structure and ending at a station 3 ft beyond the ending extremity of the structure.

Prevent limb, bark or root injuries to trees, shrubs or other types of vegetation that are to remain growing and prevent damage to adjacent property. Repair scarred areas in accordance with generally accepted horticultural practice. Where plants are damaged by any construction operations to such an extent as to destroy their value for shade or other landscape purposes, cut and dispose of them.

200-5 GRUBBING

Perform grubbing on all areas cleared, with the following exceptions:

(A) In embankment areas, when the depth of embankment measured under the roadbed exceeds 6 ft in height, cut off sound stumps not more than 6" above the existing ground level and do not grub. Remove unsound or decayed stumps to a depth of approximately 2 ft below the natural ground surface.

(B) When authorized, leave stumps outside of construction limits in place. Cut such stumps off reasonably close to the natural ground surface.

(C) Cut off stumps in swamp areas to approximately 6" above low water level and do not grub.

(D) Do not grub in areas where waste or unsuitable material is to be deposited unless such areas are to become a part of a future roadway.

(E) Grub all areas where piles are to be driven regardless of fill height.

(F) Fill all holes and other depressions within the areas between the construction limits and the limits of clearing and grubbing. Bring all areas to a uniform contour where later mowing operations will take place.

200-6 DISPOSITION OF TIMBER, STUMPS AND DEBRIS

The property owner will have no right to use or reserve for their use any timber on the project. All timber cut during the clearing operations shall become the property of the Contractor and shall be removed from the project or shall be satisfactorily disposed of as provided hereinafter.

Do not cut any trees and vegetation beyond the clearing limits established. Do not cut any trees and vegetation that is to be preserved for landscape or erosion control purposes as shown in the plans and permit drawings.

Remove from the project and properly dispose of all vegetation, roots, stumps, tree laps, limbs and timber remaining on the project by a satisfactory method.

When vegetation is disposed of by burning, burn so as to prevent injury to property within or outside of the right of way. Comply with all Federal, State and local laws, ordinances and regulations when burning. Secure all necessary burning permits. Perform all burning under the constant care of a competent watchman. Do not allow smoldering or dense smoke to occur during burning.

Before trees or vegetation are disposed of in locations off the right of way and out of sight of the project, furnish the Engineer with verification that the site is permitted. If required, file an approved reclamation plan and furnish a written release from the property owner, or his authorized agent, granting the servitude of his lands.

If it is not burned, dispose of all debris including vegetation in accordance with Section 802.

200-7 SELECT TREE REMOVAL

When the contract includes the item of *Select Tree Removal* and the work of clearing and grubbing has been completed to the original clearing limits, the Engineer may elect to have select trees removed from the project. Trees removed in this manner shall have an average cross section diameter of at least 4 inches at a point 2 feet above the ground level.

Completely remove the select trees including the root ball and properly backfill unless otherwise directed.

200-8 MEASUREMENT AND PAYMENT

Clearing and Grubbing will be paid on a lump-sum basis and no measurement will be made of any clearing and grubbing performed within the limits originally staked and within the right of way or easements shown on the original plans.

Supplementary Clearing and Grubbing that is directed by the Engineer and is performed on areas outside the limits originally staked or beyond the limits of the right of way or easements or within environmentally sensitive areas shown on the original plans will be measured and paid at the contract unit price per acre. All measurement of clearing and grubbing will be made horizontally.

Once the root mat is removed, material that consists predominately of soils will be measured and paid in accordance with Section 225.

Materials used to fill depressions in accordance with Subarticle 200-5(F) will be measured and paid in accordance with Sections 225 or 230, depending on the source of the material.

When the Contractor is required to furnish borrow sources, material sources or waste areas, or when the Engineer permits the Contractor to obtain borrow or deposit waste on any area within the right of way instead of borrow and waste areas which were to have been furnished by the Contractor, no measurement of clearing and grubbing will be made for such areas.

When an increase in accumulated acres exposed by clearing and grubbing is requested by the Contractor and approved by the Engineer, no payment will be made for the temporary seeding and mulching required by the increase in accumulated exposed acres.

Section 205

Select Tree Removal will be measured and paid as the actual number of select trees satisfactorily removed from the project.

Work performed in cleaning up non-wooded areas between the construction limits and the limits of the project right of way or easements shown in the plans; work performed in the dressing up of areas between the construction limits and the clearing limits; and the removal of weeds, vines, plant stalks, loose rock and small scattered trees will be incidental to the work of clearing and grubbing.

Where plants are damaged by construction operations, the work to cut and dispose of them will be incidental to the work of clearing and grubbing.

Payment will be made under:

Pay Item	Pay Unit
Clearing and Grubbing	Lump Sum
Supplementary Clearing and Grubbing	Acre
Select Tree Removal	Each

SECTION 205

SEALING ABANDONED WELLS

205-1 DESCRIPTION

Seal abandoned wells at locations shown in the contract or as directed. Perform all work in accordance with NCDENR requirements.

205-2 CONSTRUCTION METHODS

Use a well contractor certified by the State of North Carolina to perform abandonment.

Seal each well before clearing and grubbing the well site. Check the well from land surface to the entire depth of the well before it is sealed to ensure freedom from obstructions that may interfere with sealing operations. Before sealing, place chlorine in the well in sufficient quantities to produce a chlorine residual of at least 100 milligrams per liter in the well.

All casing and screen materials may be salvaged except casing that is cemented in place. In the case of gravel-packed wells in which the casing and screens have not been removed, perforate the casing opposite the gravel pack at intervals not exceeding 10 ft.

Completely fill bored wells with cement grout or dry clay compacted in place. Completely fill wells constructed in unconsolidated formations with cement grout by introducing it through a pipe extending to the bottom and raising it as the well is filled. Fill wells constructed in consolidated rock formations or that penetrate zones of consolidated rock to at least 5 ft below the top of the consolidated rock with sand, gravel or grout opposite the zones of consolidated rock. Fill the remainder of the well with cement grout.

Complete a certified well abandonment record (Form GW-30) and submit to the Engineer.

205-3 MEASUREMENT AND PAYMENT

Sealing Abandoned Wells will be measured and paid in units of each for the actual number of wells acceptably sealed. Work includes, but is not limited to, chlorinating the well before sealing; perforating the well casing; filling the well with cement grout, dry clay, sand or gravel; and furnishing all necessary records.

Payment will be made under:

Pay Item	Pay Unit
Sealing Abandoned Wells	Each